

ABSTRACT

A transmitter (100) incorporates an energy storage device (112) to improve operation at low temperature ranges by preventing a battery voltage from dropping below a nominal value of a PLL (104). A processor (106) in the transmitter (100) checks a voltage across the battery (102) during a previous transmission and monitors the temperature from a temperature sensor (110). If the battery voltage and/or the temperature fall below a selected threshold, the energy storage device (112) stores energy that is released when the PLL (104) transmits a signal. By supplementing the energy from the battery (102) with energy from the energy storage device (112), the transmitter (100) keeps the battery voltage from dropping below the nominal value.

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